9) Cont trends and maintenance requirements the classification of each OPC may be stored in the data storage area.

REMARKS

1. In the present application, claims 1-23 are pending, claims 1-15 and 17-22 have been rejected, and claims 16 and 23 have been objected to. The specification has been amended. A proposed drawing amendment is submitted herewith. A marked-up version of the rewritten specification is attached hereto.

2. The specification has been amended to overcome the Examiner's objection to Fig. 4. The specification has been amended to include the cited reference numbers. No new matter has been added.

3. A proposed drawing amendment is being submitted herewith to overcome the Examiner's objection to the drawings for failing to show "the bottom edge wipe defect" or "bottom edge" as described in the specification. Figure 1 has been amended to show a bottom edge with reference number 12. Reference number 12 has been appropriately added to the specification. No new matter has been added.

4. Claims 1-15 and 17-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,352,329 to Herbert et al. ("Herbert"). Herbert does not teach or suggest a system for optically sensing manufacturing defects in OPC devices, as recited in claim 1. Instead, Herbert discloses a method of removing excess coating material from an electrostatographic imaging member substrate. Herbert is merely directed to removal of excess coating. The "extra step of hand wiping" referred to in Col. 2, lines 3-7, merely refers to

"removal" of the coating using acetic acid, and not to detecting of defects. Applicants respectfully request documentary proof supporting the proposition that hand wiping for a bottom edge wipe method implies a system for optically sensing manufacturing defects. (M.P.E.P. § 2144.03).

Herbert also does not teach or suggest a method of optically discriminating an Organic Photo Conductor Device (OPC), as recited in claim 20, or a method of optically classifying residues on at least one bottom edge area of an OPC, as recited in claim 11. Instead, Herbert discloses the use of acetic acid for removing excess coating material from an electrostatographic imaging member substrate. Furthermore, Herbert does not disclose optically sensing manufacturing defects in organic photo conductors (OPC), as disclosed in claims 1, 11 and 20 of the present application.

In addition, since Herbert does not teach or suggest a system and method for optically sensing manufacturing defects in OPC devices, it is impermissible hindsight reconstruction to state that it is obvious to make a mechanical system or method from the disclosure in Herbert. Therefore, the rejection of claims 1, 6-11 and 17-22 should be reversed, and the claims allowed.

In the Official Action, the Examiner takes Official Notice that the use of an LED, laser or emitter is known in the art as an equivalent structure for its use in the art of radiation sources in radiation detection systems. (See paragraph 5 of the Office Action.) The art of optically sensing manufacturing defects in organic photo conductors (OPC) is not analogous to the art of radiation detection systems. Furthermore, this is not what Herbert is directed to. Applicants respectfully request

documentary proof in support of the stated position (M.P.E.P. § 2144.03). Respectfully, the Official Notice is not supportable.

The Examiner also takes Official Notice that the CCD camera is well known in the art as an equivalent structure for use in the art of radiation detectors in radiation detection systems. (See paragraph 6 of the Office Action.) The art of optically sensing manufacturing defects in organic photo conductors (OPC) is not analogous to the art of radiation detection systems. Furthermore, this is not what Herbert is directed to. Applicants respectfully request documentary proof in support of the stated position (M.P.E.P. § 2144.03). Respectfully, the Official Notice is not supportable.

Furthermore, the Examiner takes Official Notice that analog and digital signal processing is well known in the art as equivalent processing means for its use in the art of radiation devices. (See paragraph 7 of the Office Action.) The art of optically sensing manufacturing defects in organic photo conductors (OPC) is not analogous to the art of radiation devices. Furthermore, this is not what Herbert is directed to. Applicants respectfully request documentary proof in support of the stated position (M.P.E.P. § 2144.03). Respectfully, the Official Notice is not supportable.

Since Herbert and the art cited by the Examiner, or their combination, does not teach or suggest optically sensing manufacturing defects in organic photo conductors (OPC), claims 1, 11 and 20 are allowable for the reasons above. As claims 2-10, 12-19 and 21-23 depend directly or indirectly from claims 1, 11 and 20, the depending claims are also allowable.

5. Claims 16 and 23 have been objected to as being dependent upon a rejected base claim. Since claim 16 depends indirectly from claim 11 and claim 23 depends from claim 20, these claims should also be allowed in view of the dependency.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

Michael Clorite

03/26/02

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to the Commissioner of Patents, Washington, D.C. 20231.

Date: 3/26/02

Signature: Claire Mauch
Person Making Deposit

Application No.: 09/629,204

Marked Up Specification Replacement Paragraph(S)

Please delete the paragraphs starting on page 4, line 18 through page 6, line 27 and replace with the following replacement paragraphs:

Referring now to Figs. 2 and 5; in Fig. 2 there is shown a method flow chart of one embodiment of the invention showing the steps for classifying the bottom area 12 of a OPC as acceptable, non-acceptable, or quasi-acceptable. First, the bottom edge area 12 of the OPC is illuminated 22 with a suitable illuminating device. Some examples of illuminating devices are light emitting diodes (LEDs), LASERs, or an emitter capable of emitting electromagnetic radiation of one or more wavelengths (i.e., a white light source). The reflected illumination from the bottom edge area 12 of the OPC is captured 24, where capturing the reflected illumination may be any suitable method for converting illumination intensity to a reference voltage or digital signal. The captured illumination is compared 26 with a predetermined threshold level to determine 28 if a first threshold level has been exceeded. If the first threshold has not been exceeded the OPC is classified as acceptable 216. If the first threshold has been exceeded the captured illumination is compared 29 with a second threshold level. If the captured illumination exceeds 210 the second threshold level the OPC is classified as non-acceptable 214 otherwise the OPC is classified as quasi-acceptable 212.

Referring now to Fig. 3 and there is shown a detailed method flow chart, corresponding to the method flow chart shown in Fig. 2, of one embodiment of the invention showing the steps for

classifying the bottom area 12 as acceptable or non-acceptable; in Fig. 3A there is shown a schematic diagram of one implementation of a circuit for implementing the method shown in Fig 3. First the OPC bottom area 12 is illuminated 32 and reflected illumination is captured 34, and converted 35 to a voltage by a semi-conductor device such as a photodiode 3A2. The converted voltage is compared 36 to a predetermined voltage level after being amplified by an amplifier comprising a feedback resistor 3A4, an input resistor 3A6, and an operational amplifier 3A8. The predetermined voltage level may be set by reference to a known good OPC device with acceptable bottom edge residue. If the converted voltage exceeds 38 the predetermined voltage level as measured by voltmeter 3A10 the OPC device is classified 310, by 3A10 as non-acceptable; otherwise the device is classified as acceptable 312.

Referring now to Fig. 4 there is shown a detailed method flow chart of one embodiment of the invention showing the steps for classifying the bottom area 12 as acceptable, quasi-acceptable, or non-acceptable. First, the bottom area 12 of the OPC is illuminated 42 and reflected illumination is captured 44 by a charge coupled device (CCD) such as a digital camera. Through well known digital techniques the captured illumination is differentiated 46 into gray level pixel data or matrix cells. Dark areas of the bottom edge portion of the OPC due to BEW residue will correspond to dark pixels while lighter areas of the bottom edge portion will correspond to lighter pixels. A first threshold ratio is predetermined by determining a number of allowable dark pixels to the total number of pixels 48. For example, if a certain band is comprised of five dark pixels and the total number of pixels is fifty, the threshold ratio is one tenth or .1. The measured ratio of the device under test is then

compared 49 with the first predefined threshold ratio that may be stored in a data storage area. If the ratio is determined 410 to have not exceeded the first predefined threshold ratio the OPC is classified as acceptable 418. If the ratio is determined 410 to have exceeded the first predefined ratio then a second comparison to a second predefined ratio is made 411. If the ratio is determined 412 to have exceeded the second predefined ratio the part is classified as non-acceptable 416; otherwise the part is classified as quasi-acceptable 414. For determining trends and maintenance requirements the classification of each OPC may be stored in the data storage area.